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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/449,575	11/29/1999	JIN-YI PAN	552.112US01	6435

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EXAMINER
TRAN, DZUNG D

ART UNIT	PAPER NUMBER
2633	

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11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/449,575	Applicant(s) PAN, JIN-YI	
	Examiner Dzung D Tran	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *amendment filed on 04/01/2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi et al. U.S. patent no. 6,151,304 in view of Azuma et al. U.S. patent no. 6,430,150.

Regarding claim 1, Doshi discloses a method for establishing a protection path for a failed link between first and second nodes in a mesh network wherein a transfer of information from the first node to the second node is disrupted by the failed link (abstract, figure 6), the method comprising:

establishing an alternate path from the second node to the first node via a destination to source communication channel , wherein the destination to source communication channel is established through one or more alternate nodes beginning at the second node and ending at the first node (figure 10B, step 148, column 16, lines 25-27);

requesting each of the alternate nodes to allow the information traffic flow from the first node to the second node along the alternate path (column 15, lines 42-47, column 16, lines 26-27, lines 51-62); and informs the source node of the selected

alternate path when the destination-to-source communication channel is established at the first node (column 16, lines 31-32, lines 62-65). Doshi does not specifically disclose for switching the services to alternate paths in the event of link failure (i.e. a person of ordinary skill in the art must know that the switching or routing had to be done in order to reroute the signals from service path to alternate path). Azuma discloses the mesh optical network that switch service information to the alternate paths in the event of link failure (column 2, lines 3-54). At the time of the invention was made, it would have been obvious to a person of ordinary skill in the art to include the teaching of Azuma in the system of Doshi. One of ordinary skill in the art would have been motivated to do this since the switching allow the system to reroute the optical signals from service path to alternate path in the event of fault on the link or link failure. Thus, the restoration paths allow the system to continue to serve the end users, therefore, improving the system reliability.

Regarding claim 2, Doshi further discloses that the mesh network is an optical mesh network, and the information transferred comprises optical signals (figures 6, column 9, lines 37-48).

Regarding claim 3, Doshi further discloses that the optical mesh network is an optical mesh network incorporating wavelength division multiplexing whereby multiple optical signals each transmitted at a different wavelength are transmitted on a single optical fiber (column 1, lines 29-47).

Regarding claim 4, Azuma et al. further disclose for executing a switch function that comprises optically switching the wavelengths of one or more of the optical signals

of the failed link onto optical fibers establishing the alternate path (column 4, line 62 to column 5, line 7).

Regarding claim 5, Azuma et al. further disclose optically switching one or more of the optical signals of the failed link comprises switching the one or more optical signals to alternate ports of an optical cross-connect (column 4, line 63 to column 5, line 7).

Regarding claim 6, Azuma et al. further disclose a switch function that comprises switching the optical signals of failed optical fibers onto alternate optical fibers to establish the alternate path (column 2, lines 20-21, column 3, lines 14-17).

Regarding claim 7, Azuma et al. further disclose switching one or more of the optical signals of the failed fibers onto alternate optical fibers comprises collectively switching the one or more optical signals associated with the optical fibers of the failed link to different ports of a fiber cross-connect (column 4, line 63 to column 5, line 7, column 2, lines 20-21, column 3, lines 14-17) .

Regarding claim 8, Azuma et al. further disclose for establishing an alternate path from the second node to the first node comprises routing the destination-to-source communication channel along a predetermined path of the alternate nodes (column 1, lines 29-37).

Regarding claims 9 and 10, Azuma et al. further disclose for establishing an alternate path from the second node to the first node comprises routing the destination-to-source communication channel along a dynamically-generated path of the alternate nodes and selecting the potential alternate node for inclusion into the dynamically-generated path (column 1, lines 38-42).

Regarding claim 11, Azuma et al. further disclose a node address table (figures 1A, 1B).

Regarding claim 12, Azuma et al. further disclose the node status at least the next two hops of nodes (figure 5B, column 3, line 48).

Regarding claim 13, Azuma et al. further disclose for detecting the failed link at the second node (column 4, line 45-49).

Regarding claim 15, Doshi further discloses that first node is an information-originating source node from which the information transfer is initiated (figure 6, column 9, lines 37-65).

Regarding claim 16, Doshi further discloses that the first node is an intermediate source node between the failed link and an information-originating source node from which the information transfer is initiated (figure 6, column 9, lines 37-65).

Regarding claim 17, Doshi further discloses that second node is a targeted destination node to which the information transfer is ultimately directed (figure 6, column 9, lines 37-65).

Regarding claim 18, Doshi further discloses that the second node is an intermediate source node between the failed link and a targeted destination node to which the information transfer is ultimately directed (figure 7, column 10, line 2-26).

Regarding claims 19 and 20, Azuma et al. further disclose transmitting a failure notification message from the second node to the first node via the destination-to source communication channel, wherein the destination-to-source communication channel transmits the failure notification message from the second node to the first

node by way of the alternate path (column 4, lines 44-49, column 9, lines 49-50).

Regarding claim 21, Azuma et al. further disclose that destination-to-source communication channel comprises one or more wavelengths dedicated to transmitting management information, including a link failure notification (column 3, line 62 to column 4, line 50).

Regarding claim 22, Azuma et al. further disclose a network protection configuration for use in optical mesh network topologies to reroute optical signals from a failed transmission path to one or more alternate transmission paths (abstract, figures 5A, column 1, lines 6-10), the network protection configuration comprising:

an optical fiber network comprising a plurality of optical network nodes (figure 1, elements 1, 2, 3) and a communication channel established from the destination node to the source node to transmit a path failure notification, wherein a route established by the destination-to-source communication channel traversing one or more of the optical network nodes defines the alternate transmission path, and wherein the network nodes defining the alternate transmission path are switched in response to the path failure notification to facilitate source-to-destination transmission of the optical signals from the failed transmission path along the alternate path (column 2, lines 11-54).

Regarding claims 23-26, Azuma et al. further disclose in figure 1A, 1B each of the optical network nodes further comprises memory to store an optical node address table, wherein the optical node address table maintains status information for surrounding optical network nodes being within at least two hops of the optical

network node (claim 23), the status information comprises an optical node address for the surrounding optical network nodes (claim 24), the status information comprises node availability information for the surrounding optical network nodes (claim 25) and the status information comprises node bandwidth capacity information for the surrounding optical network nodes (claim 26).

Regarding claims 27 and 28, Azuma et al. further disclose each of the optical network nodes further comprises a fiber cross-connect circuit coupled to one or more of the optical fibers of the failed transmission path to switch the optical signals corresponding to a failed optical fiber to fiber cross-connect output ports to route the optical signals corresponding to the failed optical fiber to targeted optical fibers along the alternate path (column 4, line 63-column 5, line 7, column 2, lines 20-21, column 3, lines 14-17) .

Regarding claim 29, Azuma et al. further disclose that the optical mesh network is an optical mesh network incorporating wavelength division multiplexing whereby multiple optical signals each transmitted at a different wavelength are transmitted on a single optical fiber (figures 4A, 4B, 9, column 4, lines 41-51, column 11, lines 1-3).

Regarding claim 30, Azuma et al. further disclose for detecting the failed transmission path at the destination node (column 4, lines 45-50)

Regarding claim 31, Azuma et al. further disclose that each of the optical network nodes comprises switching means for rerouting the optical signals corresponding to the failed transmission to optical fibers along the alternate path in response to the path failure notification (column 7, lines 20-29).

Regarding claims 32 and 33, Azuma et al. further disclose an optical cross-connect circuit coupled to receive one or more of the optical signals and to switch the optical signals to particular output ports of the optical cross-connect to route the optical signals to targeted ones of the optical fibers (column 4, line 63 to column 5, line 7, column 2, lines 20-21, column 3, lines 14-17).

Regarding claims 34 and 35, Doshi futher disclose the send message is send from destination node to the source node whereby when the send message reach the source node, the alternate has been established (column 15, lines 42-47, column 16, lines 26-27, lines 51-62).

Response to Arguments

3. Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung Tran whose telephone number is (703) 305-0932.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jason Chan, can be reached on (703) 305-4729.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600